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ABSTRACT

A study was conducted at Virginia Polytechnic Institute and State University to determine the relationship between the use of verbal and nonverbal interaction by preservice education students and the grades assigned to them by vocational education teacher educators. The study also investigated the assignment of grades by vocational teacher educators in different program areas, the influence of teacher educators' or students' sex on the grades they assigned or received, the difference among the grades given by different professorial ranks of teachers and to different course levels of preservice students. Teacher educators viewed and graded 10 minutes from 10 videotapes randomly selected from 57 videotapes made by agricultural education preservice students. Data were analyzed using the Pearson Product-Moment Correlation Coefficient and multiple correlation. The study found that the highest positive relationships for verbal interaction with grades assigned by vocational teacher educators were for "praises or encourages" and "asks questions," while the highest negative relationships were for "student question-initiation" and "accepts feelings." The highest positive relationships for nonverbal interaction with grades assigned were for "positive use of space" and "positive nod," while negative relationships for nonverbal interaction with grades assigned were for "negative facial expressions" and "negative gestures." Highest grades were given by teacher educators in agricultural education, by male teachers, and by associate professors. Highest grades were received by female students and students in methods courses. Further research was recommended to determine the reasons for these differences in grading. (KC)

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VIRGINIA TECH

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AGRICULTURAL EDUCATION

Virginia Polytechnic Institute & State University

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A STUDY TO DETERMINE THE GRADING BIASES OF VOCATIONAL TEACHER EDUCATORS

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All vocational teacher educators, including agricultural education teacher educators, must make evaluative decisions about the performance of preservice students they supervise. These decisions occur during role play situations, while micro-teaching, making video tapes, during student teaching and under other circumstances. Even the teacher educator who supervises student teachers for an institution that grades on a pass-fail basis must decide who passes and who fails.

Most teacher educators find it difficult to express the factors which influence the grades they assign to preservice students. When queried about what they consider important teacher educators reply in somewhat vague and almost trite expressions such as "well planned lessons" and "orderly classes."

This study operated from the premise that teacher educators need to know what most influences the grades they assign to students. A second assumption was that feedback on such influences or biases could be provided in both an organized and a statistical manner.

Numerous journal articles and doctoral dissertations have been written on the topic of grading preservice students, especially student teachers. Among these is an article by Denton and Kazimi (1982). The researchers examined teacher education supervisors' ratings of various secondary student teacher characteristics. These ratings were correlated with the scores achieved on criterion referenced tests by learners taught by the student teachers in the study. The correlations found generally low relationships between supervisor's ratings and learner scores. Examples of such relationships were the student teacher's ability to: develop lesson plans $r = .19$, use different levels of classroom questions $r = .16$, use audio-visual equipment $r = -.04$, construct tests $r = -.05$, and use performance objectives $r = .04$.

Moffett (1966) investigated the possibility of having university supervisors grade student teachers on the achievement of mutually established learner objectives. Both the supervisor and the student teachers established and agreed upon the objectives to be accomplished on geography skills by learners taught by the student teachers. The researchers randomly assigned student teachers to an experimental group using the instructional objectives or to a control group not using the objectives. The study showed a significant difference favoring the experimental student teachers for the following aspects: (1) Learners

taught by student teachers in the experimental group better achieved the goals of instruction, (2) student teachers in the experimental group expressed more satisfaction with mid-term grades, (3) experimental group student teachers considered the supervisor more helpful, and (4) learners taught by experimental group student teachers more often expressed competence in geography skills.

McNeil and Popham (1973) point out that much is to be desired in the evaluation of student teachers.

> Teacher evaluation in programs for the education of teachers has been singled out as particularly deficient. Evaluation for purposes of improvement is wanting. College supervisors seldom have pre-observational conferences with novice teachers before a lesson is presented. Often there is conflict between the expectations of the college supervisor and the supervising teacher in the classroom where the novice is teaching. (pp. 228-229)

Sorenson (1967) also points out common problems associated with subjective evaluations of student teachers. When 163 student teachers were asked to list the things you would recommend to your best friend to do to receive a grade of A from the university supervisor, the responses indicated (1) doing as one was told, (2) fawning and cultivating the supervisor - having coffee with her, (3) preparing lesson plans in advance, (4) keeping absolute control of the class at all times, (5) Using an inductive approach in teaching, (6) giving extremely explicit directions, and (7) being original.

While teacher educators may disagree on how relatively objective or subjective the measures should be for evaluating preservice students, grading is primarily based upon observations of what the pre-service student is actually doing. Differences of opinion exist as to which general type of communication most influences both learners and observers.

In a study conducted by Woolfolk and Woolfolk (1974) it was concluded the verbal (oral) communication most influenced learners. The study conducted used one female teacher in four different controlled settings of positive verbal-positive nonverbal, positive verbal-negative nonverbal, negative verbal-positive nonverbal, and negative verbal-negative nonverbal. The researchers concluded that, "Contrary to experimental prediction, results indicated that teacher verbal behavior was more important than her nonverbal behavior in influencing student perceptions of the teacher and attraction toward her."

Objectives of the Study

1. To determine the relationship between the use of verbal interaction by preservice students and grades assigned to them by vocational education teacher educators.

2. To determine the relationship between the use of nonverbal interaction by preservice students and grades assigned to them by vocational education teacher educators.

3. To compare the grades assigned to preservice students by vocational teacher educators in different program areas.

4. To determine the influence of preservice students' sex upon grades assigned by vocational teacher educators.

5. To determine the influence of vocational teacher educators' sex upon grades assigned.

6. To determine the influence of the course level of preservice students upon the grades assigned by vocational teacher educators.

7. To determine the difference among the grades assigned by vocational teacher educators of different professorial rank.

8. To establish a profile of factors influencing the assignment of grades to preservice students by vocational education teacher educators.

Methods of Procedures

A total of 57 videotapes were made by agricultural education preservice students during the academic years of 1980-81 and 1981-82 at Virginia Tech for use in the study. The videotapes were made by students enrolled in the three levels of a junior introductory class, methods class, and student teaching. The videotapes were made by 21 female and 36 male students.

Upon completion of the videotaping two project staff members coded the first ten minutes of the tapes for both verbal interaction and nonverbal interaction. The staff member who coded for verbal interaction used the Flander's Interaction Analysis (Flanders, 1963) which contained 10 codes. The staff member who coded for nonverbal interaction used the Hillison-Crunkilton Nonverbal Code (Hillison and Crunkilton, 1978) which contained 15 codes. Both coders randomly selected one tape out of every 15 completed to recode for a reliability check.

After each videotape had been coded for both verbal and nonverbal interaction they were graded by a total of 10 vocational teacher educators (four females and six males). Two teacher educators were in each of the vocational education services areas of agricultural education, business education, home economics education, industrial arts education, and marketing education. Each teacher educator selected for the study had experience teaching undergraduate methods courses and/or supervising student teachers. All teacher educator participants had previous experience assigning grades to such preservice students in their respective service areas.

Each teacher educator observed the first ten minutes each of ten randomly assigned videotapes. At the completion of each videotape's ten minute observation a grade with a range of A to F and possibly pluses and minuses was assigned individually to that videotape. The grading system used at Virginia Tech of A=4.0, A-=3.7, etc. was used.

The data were analyzed by using the Pearson Product-Moment Correlation Coefficient and multiple correlation. The Pearson Product-Moment Correlation determined the relationship between each code (both verbal and nonverbal) and the grade assigned by teacher educators. In addition, means and one-way analysis of variance were also used.

Results: Findings, Conclusions, Recommendations

Findings

Table 1 indicates the highest positive relationship for all vocational teacher educators were found for the codes of "praises or encourages" (r=.32) and "asks questions" (r=.27). The highest negative relationships were found for all vocational teacher educators to be "student question-initiation" (r=-.17) and "accepts feelings" (r=-.16).

The highest positive relationships for all teacher educators for the category of nonverbal communication were "positive use of space" (r=.24) and "positive head nod (r=.23). The highest negative relationships were for "negative facial expression" (r=-.19) and "negative gesture" (r=-.14). Table 2 indicates this information.

The highest grades were assigned by teacher educators in agricultural education. The lowest grades were assigned by teacher educators in business education. Table 3 indicates this information.

Table 4 indicates the influence of the sex of both teacher educators and preservice students. The female students were assigned significantly higher grades than the male students. Male teacher educators assigned higher, but statistically higher grades, than did the female teacher educators.

Table 5 indicates the means, F ratio, and F probability of grades assigned by course. The highest grades were assigned to students in the methods course. Methods students were assigned a mean grade of 3.11, while 3000 students were assigned a mean grade of 2.40, and student teachers a mean grade of 2.51.

Table 6 indicates little difference among the grades assigned by teacher educators in different professorial ranks. The professor assigned a mean of 2.69, the associate professors a mean of 2.89, and the assistant professors a mean of 2.67.

Conclusions

1. The highest positive relationships for verbal interaction with grades assisgned by all vocational teacher educators were for the codes of "Praises or encourages" and "asks questions."

2. The highest negative relationships for verbal interaction with grades assigned by all vocational teacher educators were for the codes of "student question-initiation" and "accepts feelings."

TABLE 1

RELATIONSHIPS OF VERBAL INTERACTION WITH GRADES ASSIGNED BY VOCATIONAL TEACHER EDUCATORS

Code	Agricultural education	Business education	Home economics	Industrial arts	Marketing education	Vocational education
Accepts feelings	.01	-.14	-.28	NR	-.14	-.16
Praises or encourages	.63*	-.01	.37*	.46*	.12	.32*
Accepts or uses ideas of students	.01	.10	.21	.14	-.15	.06
Asks questions	.59*	.07	.23	.46*	.02	.27*
Lectures	-.02	-.11	.36*	-.07	.20	.07
Gives directions	.02	.02	-.43*	.10	-.19	-.11
Gives criticism or justifies authority	NR	.13	NR	NR	NR	.04
Student response	.52*	-.16	-.27	.59*	-.16	.01
Student question - initiation	.19	-.34	-.36*	.06	-.17	-.17*
Silence or confusion	-.08	.27	.22	.22	-.30	.02

* $p < .05$

NR = Not Reported

TABLE 2

RELATIONSHIPS OF NONVERBAL INTERACTION WITH GRADES ASSIGNED BY VOCATIONAL TEACHER EDUCATORS

Code	Agricultural education	Business education	Home economics	Industrial arts	Marketing education	Vocational education
Positive						
Facial expression	.42*	.16	.48*	-.23	-.24	.11
Eye contact	.31	-.44*	.08	.62*	.25	.13
Head nod	.35	-.15	.32	-.18	.11	.23*
Body orientation	.27	NR	NR	.08	-.24	.04
Space	.18	.14	.44*	.21	.20	.24*
Gesture	.29	-.10	-.01	.34	-.07	.02
Vocal behavior	.14	-.01	-.05	.18	.24	.11
Negative						
Facial expression	NR	-.14	-.35	NR	-.14	-.19*
Eye contact	.16	NR	NR	.07	.17	.12
Head shake	NR	-.22	NR	.24	NR	-.11
Body orientation	-.01	NR	.02	-.27	.16	.01
Space	-.06	-.29	.22	.21	.10	.16
Gesture	-.19	-.06	-.23	-.28	-.23	-.14
Vocal behavior	.01	NR	.30	.24	-.24	.14

* $p < .05$

NR = Not Reported

TABLE 3

MEANS, F RATIO AND F PROBABILITY OF GRADES ASSIGNED BY PROGRAM AREA TEACHER EDUCATORS

Program Area	$\overline{X}^a$	SD	F ratio	F probability
Agricultural education	2.97	.70	1.15	.33
Business education	2.51	.86		
Home economics	2.75	.68		
Industrial arts	2.86	.49		
Marketing education	2.71	.73		
Grand Mean	2.76			

[a]A = 4.00, B = 3.00, C = 2.00, D = 1.00, F = 0.00

TABLE 4

MEANS OF GRADES ASSIGNED BY SEX OF TEACHER EDUCATORS AND STUDENTS

Teacher educators	Students		Grand Mean
	Male	Female	
Male	2.76[a]	3.10	2.93
Female	2.53	2.87	2.70
Grand Mean (significant at $p < .05$)	2.65	2.99	

[a]A = 4.00, B = 3.00, C = 2.00, D = 1.00, F = 0.00

TABLE 5

MEANS, F RATIO, AND F PROBABILITY OF GRADES ASSIGNED BY COURSE

Course	$\bar{X}^a$	F ratio	F probability
3000 (Introductory)	2.40	15.05	0.00
4030 (Methods)	3.11		
4750 (Student teaching)	2.51		

[a]A = 4.00, B = 3.00, C = 2.00, D = 1.00, F = 0.00

TABLE 6

MEANS AND STANDARD DEVIATIONS OF GRADES ASSIGNED BY PROFESSORIAL RANK OF VOCATIONAL TEACHER EDUCATORS

Professorial Rank	$\bar{X}^a$	SD
Professor (n = 1)	2.69	.67
Associate professor (n = 4)	2.89	.59
Assistant professor (n = 5)	2.67	.80

[a]A = 4.00, B = 3.00, C = 2.00, D = 1.00, F = 0.00

3. The highest positive relationships for nonverbal interaction with grades assigned by all vocational teacher educators were for the codes of "positive use of space" and "positive head nod."

4. The highest negative relationships for nonverbal interaction with grades assigned by all vocational teacher educators were for the codes of "negative facial expression" and "negative gesture."

5. Teacher educators in agricultural education assigned the highest grades, while teacher educators in business education assigned the lowest grades.

6. Female students were assigned significantly higher grades than male students.

7. Male teacher educators assigned higher grades than female teacher educators.

8. Students in the methods course were assigned significantly higher grades than students in either the introductory course or student teaching.

9. Associate professors assigned higher grades than either assistant professors or the full professor.

Recommendations

1. Further examination should be made to investigate why female students received consistently higher grades from both male and female teacher educators.

2. Examination should be made to investigate the differing grading criteria on the part of vocational education teacher educators.

3. The study should be repeated with vocational teacher educators at other universities. Students with majors in all service areas should be represented.

4. The study should be repeated with teacher educators from areas other than vocational education. Students representing various majors within education should be represented.

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